

**REMARKS**

This is a full and timely response to the outstanding Office action mailed January 13, 2005. Upon entry of the amendments in this response claims 1-43 are pending. More specifically, claims 9, 10, 22, 33, and 34 are amended. These amendments are specifically described hereinafter. It is believed that the foregoing amendments add no new matter to the present application. Other statements not explicitly addressed herein are not admitted.

**I. Present Status of Patent Application**

The drawings are objected to under 37 CFR 1.83(a). Claim 22 is objected to because the limitation of "for the plurality devices" should be "for the plurality of devices." Claims 28 and 32 are rejected under 35 U.S.C. 112, first paragraph, as allegedly failing to comply with the enablement requirement. Claims 16-22 and 33-43 are rejected under 35 U.S.C. §112, second paragraph, as allegedly being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Claims 17-19 are rejected under 35 U.S.C. §112, second paragraph for their dependency to claim 16. Claims 20, 21 and 35-43 are rejected under 35 U.S.C. §112, second paragraph for their dependency to claim 33. Claims 1-8, 20, 21, 33-36 and 39-43 are rejected under 35 U.S.C. 102(e) as allegedly being anticipated by Teraoka (U.S. Patent No. 6,292,836). Claims 1-8 are rejected for similar reasons as stated above. Claim 9 are rejected under 35 U.S.C. 102(e) as allegedly being anticipated by Rao (U.S. Patent No. 6,789,118). Claim 10 is rejected for similar reasons as stated above. Claims 11-15 are rejected under 35 U.S.C. §103(a) as allegedly being unpatentable over Rao as applied to claim 9 above, and in view of Hegde (U.S. Patent No. 6,570,875). Claims 16-19 are rejected under 35 U.S.C. §103(a) as allegedly being unpatentable over Rao and Hegde as applied to claim 9 above, and in further view of Teraoka. Claims 22-24 are rejected under 35 U.S.C. 103(a) as allegedly being unpatentable over Tokuyo *et al.* (U.S. Patent No. 6,829,238) in view of Rao. Claims 25-32 are rejected under 35 U.S.C. 103(a) as allegedly being unpatentable over Tokuyo and Rao as applied to claim 22 above, and in further view of Teraoka. Claims 29-32 are rejected for similar reasons as stated above. Claim 37 and 38 are rejected under 35 U.S.C. §103(a) as allegedly being unpatentable over Teraoka as applied to claim 33 above, and in view of Rao.

## **II. Miscellaneous Issues**

### **A. Drawings**

The drawings are objected to because they allegedly fail to show “the section E and F or [sic] the tree diagram located in Figure 5A” as described in the specification. Applicant respectfully directs attention to Fig. 5A under element 516 for section E and under element 524 for section F.

The drawings are objected to for allegedly not showing every feature of the invention specified in the claims, specifically “grouping multiple devices of the plurality of devices into a plurality of tiers within the digital network.” Applicant respectfully directs attention to Fig. 4 and the accompanying specification on page 14, line 24 – page 15, line 18. Fig. 4 clearly shows one example of multiple devices grouped into a plurality of tiers.

The drawings are objected to for allegedly not showing every feature of the invention specified in the claims, specifically “determining whether a particular transport stream identifier associated with a particular transport stream transmitted from a particular device of the multiple devices of a given tier is the same as one or more transport stream identifiers associated with other transport streams transmitted from one or more devices of the multiple devices of the given tier.” Applicant respectfully directs attention to Fig. 5 step 506 and the accompanying specification on page 18, lines 15-23 for evidence of one example of this feature.

The drawings are objected to for allegedly not showing every feature of the invention specified in the claims, specifically “determining a new transport stream identifier for the particular transport stream, wherein the new transport stream identifier is different from other transport stream identifiers associated with transport streams transmitted from the multiple devices of the given tier.” Applicant respectfully directs attention to Fig. 5 step 508 and the accompanying specification on page 18, line 18 – page 19, line 4 for evidence of one example of this feature.

The drawings are objected to for allegedly not showing every feature of the invention specified in the claims, specifically “a remap message to the particular device.” Applicant respectfully directs attention to Fig. 6 step 600 and the accompanying specification on page 19, lines 5 - 18 for evidence of one example of this feature.

The drawings are objected to for allegedly not showing every feature of the invention specified in the claims, specifically “a second network message from the plurality of devices.” Applicant respectfully directs attention to Fig. 5 element 504 and the accompanying specification on page 18, lines 3-5 for evidence of one example of more than one message.

The drawings are objected to for allegedly not showing every feature of the invention specified in the claims, specifically “determining whether the first plurality of devices is the same as the second plurality of devices; and responsive to determining the first plurality of devices is not the same as the second plurality of devices, generating an alert message.” Applicant respectfully directs attention to Fig. 7B and the accompanying specification on page 18, lines 15 – 23 and page 24, line 32 – page 25, line 2 for evidence of one example of this feature.

The drawings are objected to for allegedly not showing every feature of the invention specified in the claims, specifically “to determine a hierarchy of devices for the plurality of devices.” Applicant respectfully directs attention to Fig. 5 and the accompanying specification on page 18, lines 3 - 14 for evidence of one example of this feature.

B. Rejections under 35 U.S.C. §112 first paragraph

Claims 28 and 32 are rejected under 35 U.S.C. 112, first paragraph, as allegedly failing to comply with the enablement requirement. Claims 16-22 and 33-43 are rejected under 35 U.S.C. §112, second paragraph, as allegedly being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. A limitation of claims 28 and 32, “determining whether the first plurality of devices is the same as the second plurality of devices; and responsive to determining the first plurality of devices is not the same as the second plurality of devices, generating an alert message” is allegedly not specifically found in the specification. The Office Action asserts that what is found is “the controller then knows that there exists a transport stream source that did not respond to the initial INTSM message. The controller can then send an alert to the operator of the system that the map is incomplete” (page 24, line 32 – page 25, line 6). The Office Action asks Applicant to prove or deny this assumption by explaining sections of the main body of the specification in correlation to the Drawings.

Applicant respectfully submits that one example of the cited limitation is described in the specification cited by the examiner such that one of ordinary skill in the art is enabled to make and/or use the invention. If a transport stream does not respond to the INTSM, it has an input TSID that does not match any of the output TSID values. If it does not match any of the output TSID values, then it follows that the first plurality of devices (with a first TSID) is not the same as any of the second plurality of devices (with other TSIDs). Subsequently, an alert message is sent. Accordingly, the rejection should be withdrawn.

C. Rejections under 35 U.S.C. §112 second paragraph

Claims 16-22 and 33-43 are rejected under 35 U.S.C. §112, second paragraph, as allegedly being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Regarding claim 16, Applicant respectfully submits that page 18, line 15 – page 19, line 4 and Fig. 5A starting with element 506 describe one example of this feature in detail. Therefore, the rejection of claim 16 and its dependent claims should be withdrawn.

Regarding claim 22, Applicant respectfully submits that page 18, lines 3-14 provide for 3 tiers: source, intermediate, and output. “For example, the table relates satellite signal receivers 214 and servers 216 as network transport stream sources, MQAMs as last tier devices, and BIGs as intermediate tier devices.” Therefore, a hierarchy scheme of labeling devices is presented obviating a rejection of claim 22 under 35 U.S.C. §112. Accordingly the rejection should be withdrawn.

Claims 33 and 34 have been amended to cure the lack of antecedent basis. Therefore, as provided above, the rejections of claims 16-22 and 34-43 under 35 U.S.C. §112 should be withdrawn.

### III. Rejections Under 35 U.S.C. §102(b)

#### A. Claims 20, 21, 33-36 and 39-43

The Office Action rejects claims 20, 21, 33-36 and 39-43 under 35 U.S.C. 102(e) as allegedly being anticipated by Teraoka U.S. Patent No. 6,292,836. For the reasons set forth below, Applicant respectfully traverses the rejection.

**Independent claim 33** recites:

33. An apparatus in a digital network that receives a transport stream, the apparatus comprising.

a port adapted to receive the transport stream, *wherein the transport stream has a transport stream identifier associated therewith*; and  
*a processor in communication with the port, the processor adapted to monitor the transport stream identifier and respond to changes thereto by generating a network message.*

For a proper rejection of a claim under 35 U.S.C. §102, the cited reference must disclose, teach, or suggest all elements/features/steps of the claim at issue. *See, e.g., E.I. du Pont de Nemours & Co. v. Phillips Petroleum Co.*, 849 F.2d 1430, 7 U.S.P.Q.2d 1129 (Fed. Cir. 1988).

Applicant respectfully submits that independent claim 33 as amended is allowable for at least the reason that *Teraoka* does not disclose, teach, or suggest at least **wherein the transport stream has a transport stream identifier associated therewith**. Additionally, *Teraoka* does not disclose, teach, or suggest **a processor in communication with the port, the processor adapted to monitor the transport stream identifier and respond to changes thereto by generating a network message**.

First, regarding the transport stream ID, an IP address as taught in *Teraoka* is not a transport stream identifier (TSID). The TSID identifies a particular stream of data. It does not identify a device. A device with one IP address may be a source or destination for several transport streams. *Teraoka* does disclose identifying a particular stream of data.

Additionally, *Teraoka* does not disclose a processor at the *input* port that generates a message. In *Teraoka*, a network message is generated by the generator of the transmitted data, not by the receiver of a transport stream. Notwithstanding, no such teachings can be identified anywhere within this reference. Therefore, *Teraoka* does not anticipate claim 33, and the rejection should be withdrawn.

Because independent claim 33 is allowable over the cited art of record, dependent claims 20, 21, 34-36 and 39-43 (which depend from independent claim 33) are allowable as a matter of law for at least the reason that dependent claims 20, 21, 34-36 and 39-43 contain all the steps/features of independent claim 33. See *Minnesota Mining and Manufacturing Co. v. Chemque, Inc.*, 303 F.3d 1294, 1299 (Fed. Cir. 2002) *Jeneric/Pentron, Inc. v. Dillon Co.*, 205 F.3d 1377, 54 U.S.P.Q.2d 1086 (Fed. Cir. 2000); *Wahpeton Canvas Co. v. Frontier Inc.*, 870 F.2d 1546, 10 U.S.P.Q.2d 1201 (Fed. Cir. 1989). Therefore, since dependent claims 20, 21, 34-36 and 39-43 are patentable over *Teraoka*, the rejection to claims 20, 21, 34-36 and 39-43 should be withdrawn and the claims allowed.

Additionally and notwithstanding the foregoing reasons for allowability of independent claim 1, dependent claims 20, 21, 34-36 and 39-43 recite further features and/or combinations of features, as are apparent by examination of the claims themselves, that are patently distinct from the cited art of record. Hence there are other reasons why dependent claims 20, 21, 34-36 and 39-43 are allowable.

B. Claims 1-8

The Office Action rejects claims 1-8 under 35 U.S.C. 102(e) as allegedly being anticipated by *Teraoka* (U.S. Patent No. 6,292,836) “for similar reasons as stated above.” For the reasons set forth below, Applicant respectfully traverses the rejection.

**Independent claim 1** recites:

1. A system for discovering and mapping a digital network, the system comprising:  
***a controller adapted to generate a transport stream map*** in response to received network messages; and

a plurality of devices in communication with the controller, each of the devices adapted to receive at least one transport stream, monitor the received at least one transport stream, and respond to changes in the received at least one transport stream by generating a network message and sending the network message to the controller.

Applicants respectfully submit that claim 1 contains elements not present in claims 20, 21, 33-36 and 39-43, and a rejection of claim 1-8 for similar reasons as claims 20, 21, 33-36 and 39-43 is improper. For instance, none of claims 20, 21, 33-36 and 39-43 recite **a controller adapted to generate a transport stream map**. Therefore, a rejection of claims 1-8 for similar reasons as claims 20, 21, 33-36 and 39-43 is improper and the rejection should be withdrawn.

Because independent claim 1 is allowable over the cited art of record, dependent claims 2-8 (which depend from independent claim 1) are allowable as a matter of law for at least the reason that dependent claims 2-8 contain all the steps/features of independent claim 1. *See Minnesota Mining and Manufacturing Co. v. Chemque, Inc.*, 303 F.3d 1294, 1299 (Fed. Cir. 2002) *Jeneric/Pentron, Inc. v. Dillon Co.*, 205 F.3d 1377, 54 U.S.P.Q.2d 1086 (Fed. Cir. 2000); *Wahpeton Canvas Co. v. Frontier Inc.*, 870 F.2d 1546, 10 U.S.P.Q.2d 1201 (Fed. Cir. 1989). Therefore, since dependent claims 2-8 are patentable over *Teraoka*, the rejection to claims 2-8 should be withdrawn and the claims allowed.

Additionally and notwithstanding the foregoing reasons for allowability of independent claim 1, dependent claims 2-8 recite further features and/or combinations of features, as are apparent by examination of the claims themselves, that are patently distinct from the cited art of record. Hence there are other reasons why dependent claims 2-8 are allowable.

C. Claim 9

The Office Action rejects claim 9 under 35 U.S.C. 102(e) as allegedly being anticipated by *Rao* (U.S. Patent No. 6,789,118.). For the reasons set forth below, Applicant respectfully traverses the rejection.

**Independent claim 9** recites:

9. A method of mapping a digital network that includes a plurality of devices that receive and transmit at least one transport stream, the method comprising the steps of:
- grouping multiple devices of the plurality of devices into a plurality of tiers within the digital network; and
  - associating a first particular device of a first tier with a second particular device of a second tier of the digital network, ***wherein the second particular device receives a transport stream with a transport stream ID*** transmitted from the first particular device.

For a proper rejection of a claim under 35 U.S.C. §102, the cited reference must disclose, teach, or suggest all elements/features/steps of the claim at issue. *See, e.g., E.I. du Pont de Nemours & Co. v. Phillips Petroleum Co.*, 849 F.2d 1430, 7 U.S.P.Q.2d 1129 (Fed. Cir. 1988).

Applicant respectfully submits that independent claim 9 as amended is allowable for at least the reason that *Rao* does not disclose, teach, or suggest at least **wherein the second particular device receives a transport stream with a transport stream ID**. *Rao* discloses a VPN ID. A VPN ID identifies the connection through which a transport stream travels, but it does not identify the individual transport streams. Notwithstanding, no such teaching can be identified anywhere within this reference. Therefore, *Rao* does not anticipate claim 9, and the rejection should be withdrawn.

D. Claim 10

The Office Action rejects claim 10 under 35 U.S.C. 102(e) as allegedly being anticipated by *Rao* (U.S. Patent No. 6,789,118.). For the reasons set forth below, Applicant respectfully traverses the rejection.

**Independent claim 10** recites:

9. A method of mapping a digital network that includes a plurality of devices that receive and transmit at least one transport stream, the method comprising the steps of:



grouping multiple devices of the plurality of devices into a plurality of tiers within the digital network, ***the plurality of tiers including a source tier, an intermediate tier, and an output tier***; and

associating a first particular device of a first tier with a second particular device of a second tier of the digital network, wherein the second particular device receives a transport stream transmitted from the first particular device.

For a proper rejection of a claim under 35 U.S.C. §102, the cited reference must disclose, teach, or suggest all elements/features/steps of the claim at issue. *See, e.g., E.I. du Pont de Nemours & Co. v. Phillips Petroleum Co.*, 849 F.2d 1430, 7 U.S.P.Q.2d 1129 (Fed. Cir. 1988). Applicant respectfully submits that independent claim 9 as amended is allowable for at least the reason that *Rao* does not disclose, teach, or suggest at least **the plurality of tiers including a source tier, an intermediate tier, and an output tier**. Notwithstanding, no such teaching can be identified anywhere within this reference. Therefore, *Rao* does not anticipate claim 9, and the rejection should be withdrawn.

#### IV. Rejections Under 35 U.S.C. §103(a)

##### A. Claims 11-19

The Office Action rejects claims 11-15 under 35 U.S.C. §103(a) as allegedly being unpatentable over *Rao* (U.S. Patent No. 6,789,118 ) as applied to claim 9 and in view of *Hegde* (U.S. Patent No. 6,570,875). The Office Action rejects claims 16-19 under 35 U.S.C. §103(a) as allegedly being unpatentable over *Rao* and *Hegde* as applied to claim 9 above, and in further view of *Teraoka* (U.S. Patent No. 6,292,836). For the reasons set forth below, Applicant respectfully traverses the rejection.

Because independent claim 9 is allowable over the cited art of record, dependent claims 11-19 (which depend from independent claim 9) are allowable as a matter of law for at least the reason that dependent claims 11-19 contain all the steps/features of independent claim 9. *See Minnesota Mining and Manufacturing Co. v. Chemque, Inc.*, 303 F.3d 1294, 1299 (Fed. Cir.

2002) *Jeneric/Pentron, Inc. v. Dillon Co.*, 205 F.3d 1377, 54 U.S.P.Q.2d 1086 (Fed. Cir. 2000); *Wahpeton Canvas Co. v. Frontier Inc.*, 870 F.2d 1546, 10 U.S.P.Q.2d 1201 (Fed. Cir. 1989).

Therefore, the rejection to claims 11-19 should be withdrawn and the claims allowed.

Additionally and notwithstanding the foregoing reasons for allowability of independent claim 9, dependent claims 11-19 recite further features and/or combinations of features, as are apparent by examination of the claims themselves, that are patently distinct from the cited art of record. Hence there are other reasons why dependent claims 11-19 are allowable.

B. Claims 22-32

The Office Action rejects claims 22-24 under 35 U.S.C. 103(a) as allegedly being unpatentable over *Tokuyo* (U.S. Patent No. 6,829,238) in view of *Rao*. The Office Action rejects claims 25-32 under 35 U.S.C. 103(a) as allegedly being unpatentable over *Tokuyo* and *Rao* as applied to claim 22 above, and in further view of *Teraoka* (U.S. Patent No. 6,292,836). For the reasons set forth below, Applicant respectfully traverses the rejection.

**Independent claim 22** recites:

22. A method of mapping a digital network, the method comprising:
- assigning a unique transport stream identifier to each transport stream of a plurality of transport streams*, wherein the plurality of transport streams are transmitted from a plurality of devices included in the digital network;
  - associating each assigned unique transport stream identifier with a particular device of the plurality of devices, wherein the particular device transmits the transport stream having the unique transport stream identifier assigned thereto;
  - transmitting to each device of the plurality each assigned unique transport stream identifier associated therewith;
  - receiving a network message from multiple devices of the plurality of devices, each network message including at least one input transport stream identifier; and

using the multiple network messages to determine a hierarchy of devices for the plurality of devices.

For a proper rejection of a claim under 35 U.S.C. §103, the cited combination of references must disclose, teach, or suggest all elements/features/steps of the claim at issue. *See, e.g., In re Dow Chemical.*, 5 U.S.P.Q.2d 1529, 1531 (Fed. Cir. 1988) and *In re Keller*, 208 U.S.P.Q.2d 871, 881 (C.C.P.A. 1981). Applicant respectfully submits that independent claim 22 is allowable for at least the reason that none of *Tokuyo*, *Rao*, or *Teraoka* disclose, teach, or suggest at least **assigning a unique transport stream identifier to each transport stream of a plurality of transport streams**. *Tokuyo* discloses a TCP connection ID. A TCP connection ID identifies a connection between two devices. However, this does not disclose assigning identifiers to individual transport streams. Neither *Rao* nor *Teraoka* corrects this omission.

As shown above, the cited combination of references does not disclose, teach, or suggest, either implicitly or explicitly, all the elements of claim 22. Notwithstanding, no such teaching can be identified anywhere within these references. Therefore, the rejection should be withdrawn. Additionally and notwithstanding the analysis hereinabove, there are other reasons why claim 22 is allowable.

Because independent claim 22 is allowable over the cited art of record, dependent claims 23-32 (which depend from independent claim 22) are allowable as a matter of law for at least the reason that dependent claims 23-32 contain all the steps/features of independent claim 22. *See Minnesota Mining and Manufacturing Co. v. Chemque, Inc.*, 303 F.3d 1294, 1299 (Fed. Cir. 2002) *Jeneric/Pentron, Inc. v. Dillon Co.*, 205 F.3d 1377, 54 U.S.P.Q.2d 1086 (Fed. Cir. 2000); *Wahpeton Canvas Co. v. Frontier Inc.*, 870 F.2d 1546, 10 U.S.P.Q.2d 1201 (Fed. Cir. 1989). Therefore, the rejection to claims 23-32 should be withdrawn and the claims allowed.

Additionally and notwithstanding the foregoing reasons for allowability of independent claim 22, dependent claims 23-32 recite further features and/or combinations of features, as are apparent by examination of the claims themselves, that are patently distinct from the cited art of record. Hence there are other reasons why dependent claims 23-32 are allowable.

C. Claims 37 and 38

The Office Action rejects claims 37 and 38 under 35 U.S.C. §103(a) as allegedly being unpatentable over *Teraoka* (U.S. Patent No. 6,292,836) as applied to claim 33 above, and in view of *Rao* (U.S. Patent No. 6, 789,118). For the reasons set forth below, Applicant respectfully traverses the rejection.

Because independent claim 33 is allowable over the cited art of record, dependent claims 37 and 38 (which depend from independent claim 33) are allowable as a matter of law for at least the reason that dependent claims 37 and 38 contain all the steps/features of independent claim 33. *See Minnesota Mining and Manufacturing Co. v. Chemque, Inc.*, 303 F.3d 1294, 1299 (Fed. Cir. 2002) *Jeneric/Pentron, Inc. v. Dillon Co.*, 205 F.3d 1377, 54 U.S.P.Q.2d 1086 (Fed. Cir. 2000); *Wahpeton Canvas Co. v. Frontier Inc.*, 870 F.2d 1546, 10 U.S.P.Q.2d 1201 (Fed. Cir. 1989). Therefore, the rejection to claims 37 and 38 should be withdrawn and the claims allowed.

Additionally and notwithstanding the foregoing reasons for allowability of independent claim 33, dependent claims 37 and 38 recite further features and/or combinations of features, as are apparent by examination of the claims themselves, that are patently distinct from the cited art of record. Hence there are other reasons why dependent claims 37 and 38 are allowable.

V. Cited References Made of Record

The cited references made of record have been considered, but are not believed to affect the patentability of the presently pending claims.

**CONCLUSION**

In light of the foregoing amendments and for at least the reasons set forth above, Applicant respectfully submits that all objections and/or rejections have been traversed, rendered moot, and/or accommodated, and that the now pending claims 1-43 are in condition for allowance. Favorable reconsideration and allowance of the present application and all pending claims are hereby courteously requested. If, in the opinion of the Examiner, a telephonic conference would expedite the examination of this matter, the Examiner is invited to call the undersigned agent at (770) 933-9500.

Respectfully submitted,



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